

**Meeting Minutes
Travis Air Force Base
Environmental Management
Building 246, Downstairs Conference Room
Installation Restoration Program
Remedial Program Managers Meeting**

14 March 2001, 0930 hours

Mr. Allen Brickeen, Travis Air Force Base (AFB), conducted the Remedial Program Managers (RPM) meeting held on 14 March 2001 at 0930 in Building 246, Downstairs Conference Room, Travis AFB, California. Attendees included:

- Allen Brickeen Travis AFB
- Mark Sandy Travis AFB
- Glenn Anderson Travis AFB
- Dale Malsberger Travis AFB
- Wilford Day Travis AFB
- Anne D'Lima Travis Restoration Advisory Board (RAB) Member
- Roger Johnson Air Force Center for Environmental Excellence (AFCEE)
- Parker Atkins Informatics
- John Lucey U.S. Environmental Protection Agency (U.S. EPA)
- Elizabeth Allen Tech Law
- Sarah Raker San Francisco Regional Water Quality Control Board
- Daryl Greenway CH2M HILL
- Tom Simpkin CH2M Hill
- Rebecca Maco CH2M Hill
- Tom Sale Colorado State University
- Deena Stanley URS/Radian International
- Mike Wray GTI/IT

Handouts distributed throughout the meeting included:

- Attachment 1 Meeting Agenda
- Attachment 2 Master Meeting, Teleconference, and Document Schedule
- Attachment 3 Technical Memorandum: Evaluation of Groundwater Protection for Remedial Actions in the WABOU Soil ROD
- Attachment 4 SBBGWTP Monthly Data Sheet, February 2001
- Attachment 5 CGWTP Monthly Data Sheet, February 2001
- Attachment 6 NGWTP Monthly Data Sheet, February 2001
- Attachment 7 CH2M HILL Field Activities, March 2001 – April 2001
- Attachment 8 GTI Field Activities (March/April 2001)

1. ADMINISTRATIVE

A. Previous Meeting Minutes

Mr. Brickeen — The 14 February 2001 meeting minutes were accepted as final with minor corrections.

B. Four-Month Calendar of Upcoming Milestones and Meeting Dates

The revised Travis AFB Master Meeting, Teleconference, and Document Schedule was distributed (see Attachment 2).

Annual Meeting and Teleconference Schedule

- The date for the May 2001 RPM meeting was changed to 30 May 2001.
- The date for the July RAB meeting was changed to 26 July 2001, and the October RAB meeting was changed to 25 October 2001.

Master Meeting and Document Schedule

- Page 3, the Natural Attenuation Assessment Work Plan (NAAW) Technical Memorandum for DP039 draft to the agencies was revised to reflect the actual date of submission.
- Page 7, the Remedial Design/Remedial Action (RD/RA) Strategic Plan schedule was established.
- Page 9, the West Industrial Operable Unit (WIOU) NAAW Technical Memorandum and the GSAP 2000 Data Report Package were moved to the historical section.

2. OPERABLE UNIT UPDATE

A. North/East/West/ Industrial Operable Unit

1. Landfill Cap Design

Mr. Dale Malsberger stated that a meeting was held in Oakland with representatives from the RWQCB, Mr. John Lucey, Ms. Elizabeth Allen, and representatives from CH2M Hill and URS to discuss the LF007 Soil Design Package. Mr. Malsberger stated that he is preparing the meeting minutes and will submit them after Ms. Raker's review.

Mr. Malsberger summarized the meeting by stating that the U.S. EPA and RWQCB are in favor of an evapotranspiration (ET) cap for LF007. A separate study is being conducted at the Potrero Hills Landfill on the performance of an ET cap. Travis AFB could use this

study as a reference to give confidence that the Travis AFB ET cap will perform in this region. CH2M Hill will obtain a copy of the Potrero Hills study.

Mr. Malsberger reviewed the action items from this meeting.

Travis AFB will review the study that was provided by the Water Board. This study was written in 1998. Ms. Raker indicated that there should be an update to this study.

Mr. Malsberger stated another issue is the 5-foot separation between consolidated soil and the water table. In the design document, Travis AFB used modeling to determine where the high water table would be after the cap was constructed. The results were that the high water would be approximately 3 feet lower than the historic high water mark under the corrective action management unit (CAMU). Travis AFB also calculated that the “squish-up effect”, or the effect of increased pore pressure due to the added weight of the CAMU, would be approximately 1.4 feet. Travis felt that the 1.4 feet would dissipate quickly and would have a negligible impact on separation of groundwater. The Water Board did not have confidence in the post-construction water table modeling and felt that the results of the “squish-up effect” could last several years.

The Water Board has recommended an engineered control such as a liner, sand or gravel layer, a trench, etc, to intercept the groundwater before it rises within 5 feet of the consolidated waste.

In response to these concerns, Travis AFB agreed to do the following:

- Travis AFB will make a proposal to modify the groundwater model.
- Travis AFB will provide to the Water Board additional information on groundwater conditions.
- Travis AFB will review the conceptual model and determine if it is conservative enough and realistic. Travis AFB will evaluate the use of sensitivity analysis to determine which variables and assumptions are most important in developing an accurate conceptual model.

Mr. Malsberger asked Ms. Raker for examples of engineered controls that the Water Board would be agreeable to in order to do an economic analysis.

There was a discussion about gas monitoring since the Water Board felt that methane would be escaping from the landfill. The remedial investigation (RI) showed no measurable amounts of methane escaping from the landfill. Ms. Raker requested that Travis AFB install monitoring wells or tubes in and around the CAMU to determine if methane is escaping.

Mr. Malsberger asked Ms. Raker to review information on Hamilton AFB, including the landfill history, what the remedial action was, and what caused the methane to be generated to evaluate if the Hamilton AFB situation is similar to the one at Travis AFB.

Mr. Malsberger asked if Travis AFB does monitor for methane, should monitoring occur around the CAMU or around the perimeter of LF007. Travis AFB prefers to monitor landfill gas with handheld devices for the sake of economics.

Ms. Raker asked how the water from the interceptor trench would be collected and disposed. Mr. Malsberger stated that Travis AFB would like to design a passive system in which the groundwater would not daylight.

Mr. Lucey stated that many new questions were raised in the meeting. The first draft of the design was a mini feasibility study that looked at feasibility of different capping alternatives and the cost of each. Travis AFB may want to minimize the emphasis on the two caps that are not selected, add a chapter on the evaluation, and have a detailed description of the ET cap. Mr. Malsberger agreed.

Mr. Lucey stated that the distinction of a soil cap versus an ET cap was not clear. He suggested calling the ET an alternative cap, although this may be clarified from the results of the Potrero Hills study.

Ms. Raker stated that the name of the cap is minor. What is important is that Travis AFB ensures that the existing groundwater does not come into contact with the waste. The Water Board is more concerned with the potential hydrological problems and that the Water Board is not comfortable with the available information (i.e., the modeling, which used conservative numbers, indicated that the ET cap would meet the performance requirement).

Mr. Eckman suggested the ET cap would in fact be an alternative earth final cover (AEFC). It was agreed that the ET cap would be referred to as an AEFC.

Ms. Raker suggested that Mr. Lucey incorporate his notes with the meeting minutes when they are submitted for review.

Mr. Lucey stated that a concern has been raised about the groundwater and 5-foot separation. It may be appropriate to conduct a mini-feasibility study to address the following:

- Raising the thickness of the pad above the highest water expectation to obtain the 5-foot separation;
- The sub-drain which would act as a cut off point for the rising groundwater; and
- An alternative site location.

It is his opinion that Travis AFB is still early in the initial scoping and design of this landfill to look at an alternative site location. The additional cost involved in moving the landfill (changing the design document) would be minimal at this point. About 2/3 of the clean soil stockpile would probably go towards filling in the subsistence trenches and completing the closure of Landfill 7. Another site (WP017-former sewage treatment plant) could be used for the CAMU and use 1/3 of the clean soil that would have to be transported. Mr. Lucey suggested looking at the remedial alternatives for the sewage treatment plant to determine the cost benefit, since he believes this area would need to be capped.

Mr. Lucey stated that the selection of the preferred remedy for WP017 still needs to identify the most cost-effective action.

Mr. Lucey stated that this site (WP017) would give a 30-foot groundwater separation that is better than the 5-foot groundwater separation at the current CAMU selected site.

Mr. Malsberger stated that Travis AFB would be willing to do an engineering evaluation/cost analysis (EE/CA) for LF007. Ms. Raker asked if Travis AFB has already conducted an evaluation of the optimization for that site.

Mr. Malsberger stated that LF007 was preferable because it is a former landfill and the overall cost of operation and maintenance (O&M) with fewer caps would be less. Also, WP017 is on the southern base boundary and has a southern groundwater gradient; if there is a release to groundwater, there is only a few feet to capture and retrieve the plume before migration to private property.

Ms. Raker suggested that the reasons for choosing the LF007 location be listed in the design document.

Mr. Brickeen commented that if the CAMU is placed at another site, it would delay the execution and may impact contract expiration issues for the WABOU soil sites. Also, the waste-to-groundwater separation at WP017 suggested by Mr. Lucey earlier may not be correct.

Mr. Lucey also suggested considering the increased thickness of subgrade at WP017.

2. CAMU Acceptance Level Technical Memorandum

Mr. Malsberger stated that the preliminary responses to comments were submitted to the agencies via e-mail. Mr. Lucey stated that he would like to respond to this in a teleconference on Monday.

Mr. Lucey asked if there is a contingency plan for excavated soil that contains volatile organic compounds (VOCs). Mr. Malsberger stated that a document would be developed for the NEWIOU that is similar to the WABOU groundwater protection technical memorandum. At a previous RPM meeting, Travis AFB made a presentation showing that almost all the sites in the NEWIOU had VOCs in the groundwater but not in the soil.

Ms. Deena Stanley stated that the RI information indicates that the excavation will be 2 to 3 feet of surface soil. It is unlikely that any unknown VOC-contaminated soil would be found at this depth.

Mr. Anderson asked if the U.S. EPA has standard language to address this possibility. Mr. Lucey stated that Travis AFB could use PRG language or another type of disclaimer language.

Mr. Brickeen stated that Travis AFB will develop contingency language, which will be placed in the record of decision (ROD). Ms. Raker suggested that the language be general, addressing anything unexpected.

B. West/Annexes/Basewide Operable Unit

1. Groundwater Protection Technical Memorandum

Mr. Anderson stated that he submitted the revised WABOU Groundwater Protection Technical Memorandum to the agencies along with the revised response to the agencies' comments via email.

Ms. Raker asked if the confirmation sampling should be 100 times the maximum contaminant levels (MCLs) since it is the dilution attenuation factor. Mr. Anderson stated that the use of a dilution attenuation factor of 100 is based on the CAMU assumptions, whereas the confirmation analysis will take place at various IRP sites. The use

of the MCL without a dilution attenuation factor is a conservative approach.

Mr. Lucey stated that the report was fine; however, he did not look at the table. Mr. Anderson stated that his comment on the table was incorporated.

It was agreed that the technical memorandum would be entered into the minutes and finalized. Mr. Lucey stated that if an amendment is needed, it could be done later. (See Attachment 3.)

2. Vernal Pool Mitigation Report (Adjacent to Landfill X)

Mr. Anderson stated that on 2 March the agencies received a mitigation report created by Travis AFB three years ago. It addresses three locations on the base: the Aero Club, the vernal pool adjacent to Landfill X, and the Burke property. This report was developed in conjunction with the U.S. Fish and Wildlife Service. This report describes the three locations and discusses mitigation efforts that took place.

Mr. Lucey stated that he does not recall receiving this report.

Ms. Raker asked if a similar study will be conducted for the mitigation on Landfill 7. Mr. Malsberger said the LF007 design report will state that the Air Force is required to meet mitigation requirements that are promulgated by Air Force instruction; the primary requirement is no net loss of wetlands on Air Force bases. Travis AFB will pay into a local vernal pool mitigation bank, and the Administrative Record will document this action. The project will not impact endangered species.

Mr. Lucey stated that the U.S. EPA is prepared to be at the next RAB meeting to present the ecological assessment. Mr. Anderson stated that the Air Force will have a wildlife toxicologist from AFCEE give a presentation at the RAB meeting. It will be a generic discussion on ecological risk assessment.

Mr. Lucey requested Mr. Brickeen update the list of eco-wetland documents.

3. CURRENT PROJECTS

A. Groundwater Sampling and Analysis Program

Mr. Brickeen stated that Travis AFB is in the process of groundwater sampling and analysis; the base expects to finish during the week of 26 March 2001.

B. South Base Boundary Treatment Plant

Mr. Mark Sandy reported that the South Base Boundary Groundwater Treatment Plant (SBBGTP) performed at 58% uptime with approximately 2.5 million gallons of groundwater extracted and treated during the month of February 2001. The average flow during operation was 160 gallons per minute (gpm). Approximately 1.1 pounds of VOCs were removed during November 2000. The total mass of VOCs removed since startup of the system is 132 pounds. (See Attachment 4.)

Travis AFB is in the final stages of easement negotiations on FT005. The property owner's attorney provided comments on the easement agreement. The U. S. Army Corps of Engineers is conducting an internal legal review of the comments. The base hopes to have an agreement in place leading to the start of construction in July 2001.

Mr. Sandy displayed a section of pipe to show the build up of scale resulting from the use of the air stripper at the south treatment plant. Ms. Raker stated that she will notify the Air Force in two weeks on whether or not a sequestering agent can be used versus returning to carbon treatment. Mr. Brickeen stated that the cost of groundwater treatment would triple when using carbon.

1. Dioxin in Union Creek

Mr. Malsberger distributed a handout at the last RPM meeting that summarized the dioxin sampling results. These tables summarized all the dioxin samples collected in the effluent from the south treatment plant and at Union Creek over the last three years.

Mr. Malsberger stated that there does not appear to be an effluent problem. The dioxin levels in the creek are very low and will be addressed in the NEWIOU ROD for soil, sediment, and surface water. Mr. Malsberger stated that although dioxin is not listed as a chemical of concern (COC) in the RI data, the RPMs will be determined if a cleanup level for dioxin is necessary in the ROD.

Ms. Raker asked if Travis AFB has calculated the toxic equivalency quotient (TEQ) for the sampling results. A TEQ is a weighted sum of the concentrations of the dioxin and furan congeners multiplied by their toxicity equivalence factor, and means that the total toxicity is equivalent to the specified concentration of one congener of dioxin (2,3,7,8 TCDD). Mr. Malsberger stated that the TEQ levels for the summer of 2000 are 0.00193 pg/L upstream and 0.485 pg/L downstream. Information from the RWQCB indicates that urban stormwater runoff can range from non-detect to 10 pg/L. Mr. Malsberger stated it is his opinion that the

conclusion supports Travis AFB's position that the current situation does not require immediate action. Ms. Raker stated that she agrees.

C. Central Groundwater Treatment Plant

Mr. Sandy reported that the Central Groundwater Treatment Plant (CGWTP) performed at 99.7% uptime with approximately 3.6 million gallons of groundwater treated. The average flow for the CGWTP was 81 gpm for the month. Approximately 22 pounds of VOCs were treated during the reporting period. The West Treatment and Transfer Plant (WTTP) and associated wellfields extracted approximately 2.1 million gallons during the month ... The total mass of VOCs removed since startup of the system is 959 pounds (see Attachment 5).

Mr. Sandy stated the thermal oxidizer has been delivered, installed, and plumbed. The startup is scheduled for 19 April 2001.

Mr. Sandy stated two additional dual-phase wells will be installed at the site. Mr. Sandy asked if the startup test for the thermal oxidizer should be conducted after the additional wells are installed. Mr. Brickeen stated that only one well would be operating for the next three months. Mr. Lucey stated that it would be sensible to wait for the installation of the remaining wells.

Mr. Sandy stated that the additional expansion of the Oil Spill Area (OSA) construction is scheduled for 9 April 2001; he will email a detailed schedule to the agencies.

D. North Groundwater Treatment Plant

Mr. Sandy reported that the North Groundwater Treatment Plant (NGWTP) performed at 95% uptime. From 1 February to 28 February 2001, approximately 5.3 pounds of VOCs were removed. Approximately 0.8 million gallons of water were extracted and treated. The average flow for the NGWTP was 29.4 gpm for the month of February. The total mass of VOCs removed since startup of the system is 59 pounds (see Attachment 6).

Mr. Sandy stated that the new O&M manual would be submitted on 15 March 2001.

Mr. Mike Wray stated that the pressure switches on the blower were not moisture friendly. New switches that are moisture resistant have been installed.

4. PROGRAM ISSUES UPDATE

A. Clean Water Act Supreme Court Ruling

Ms. Raker will check with her attorneys for a position paper.

B. DSMOA

Mr. Brickeen has not heard from Mr. Salcedo. He has incorporated Ms. Raker comments.

C. Other

Mr. Brickeen distributed the field activity reports from CH2M HILL and GTI (see Attachments 7 and 8).

D. LTO Strategic Plan/Working Site Conceptual Model

A presentation was given on the Long-Term Operation (LTO) Strategic Plan/Working Site Conceptual Model by Dr. Tom Sale of the Colorado State University. The objectives of this presentation were to present the working site conceptual model, gain insights and comments from the agencies, build a foundation of understanding for the strategic plan, and develop a consensus as to necessary data and best strategies.

Highlights were as follows:

- Holistic view;
- Near- and long-term issues for the groundwater cleanup;
- Broad scope of how to accomplish;
- Understanding and concurrence as to governing factors; and
- Site conceptual model refinements for source areas (updates).

The information will be presented in Section 4 of the LTO Strategic Plan.

ACTION ITEM LIST
(Action Item Closed)

AGENDA	RESPONSIBLE	ACTION ITEM	DUE DATE	
1.	RWQCB	To review the Travis AFB dioxin data to determine what further action is necessary.	3/14/01	Completed. Item Closed

ACTION ITEM LIST
(Action Item Opened)

AGENDA	RESPONSIBLE	ACTION ITEM	DUE DATE	
1.	DTSC	To submit “no comment” letters on the treatment Plant Performance Monitoring Recommendations, WIOU NAAW, CAMU soil acceptance level technical memorandum, groundwater protection technical memorandum, ST032 technical memorandum.	1/11/01	Pending
2.	RWQCB	To follow up on the letter from Air Force in response to the notice of violation.	Open	Ms. Raker stated that she